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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/601,085

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Mukesh K. Jain

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EXAMINER

MATZEK, MATTHEW D

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/601,085	Applicant(s) JAIN ET AL.	
	Examiner MATTHEW D. MATZEK	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,10-14,16-19,24-26,28-34,36-41,43-47,53-59 and 61-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,10-14,16-19,24-26,28-34,36-41,43-47,53-59 and 61-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment dated 2/18/2009 has been fully considered and entered into the Record. Claims 20-22, 27, 42, 48-51 and 60 have been canceled. Claims 1, 5, 5, 24-26, 36-39, 41, 53, 61-63 and 66 have been amended. The amended claims contain no new matter. Claims 1-6, 8, 10-14, 16-19, 24-26, 28-34, 36-41, 43-47, 53-59 and 61-68 are currently pending.
2. The previously applied prior art rejections have been withdrawn in view of the newly amended claims as they fail to provide for at least one ePTFE membrane laminated to the sulfonated aromatic polymer layer (claim 1), a fabric laminate consisting essentially of at least one layer of apparel fabric selected from knit, woven or nonwoven fabric laminated to a sulfonated aromatic polymer (claim 24), the sulfonated aromatic polymer layer located between two porous or microporous substrates (claim 41), or the sulfonated aromatic polymer layer laminated to a porous or microporous substrate (claim 66).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-6, 8, 10-14, 16-19, 24-26, 28-34, 36-41, 43-47, 53-59 and 61-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kershner et al. (US 4,824,916) in view of Maples (US 6,395,383 B1).

a. Regarding claims, Kershner et al. teach water-insoluble, cross-linked sulfonated aromatic polyamides (Title and Abstract). The applied invention may be used to create membrane discriminating layers (col. 9, lines 26-30) and useful in textile applications (column 9, line 13). The polymer can be applied to a porous support to form a thin discriminating layer in a composite structure (col. 9, lines 40-45). The sulfonated aromatic polyamides of Kershner et al. have pendant groups comprising sulfonic acid groups in anionic form (col. 6, lines 36-43) and contain the claimed at least one repeating aromatic group (col. 2). The presence of the sulfonic acid groups contribute to making the material water soluble (column 7). The materials may be crosslinked to immobilize the polymers so that they may form a membrane. These materials are generally hygroscopic and very permeable to water vapor (column 8, lines 67+). The ionically cross-linked polymers have special utility as a protective and water-resistant coating (col. 9, lines 26-31) and may be laminated to a porous substrate (col. 10, lines 50-55).

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b. This applied patent fails to teach the instantly claimed sulfonic acid equivalent weight, its moisture vapor transmission rate, permeation to bis-2-chloroethyl sulfide or the specific use of this as a vapor porous membrane on a textile base.

Regarding the claimed sulfonic acid equivalent weight, moisture vapor transmission rate and permeation to bis-2-chloroethyl sulfide and pinacolyl methylphosphono fluoridate:

c. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the sulfonated aromatic polymer of Kershner et al. with the instantly claimed sulfonic acid equivalent weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to have discovered the instantly claimed sulfonic acid equivalent weights as the degree of sulfuric acid groups present is directly related to the hydrophilic nature of the material; the higher the concentration the more easy it is to allow water vapor to pass and give desired vapor permeability as claimed.

d. Additionally, Kershner et al. and Applicant use the sulfonated aromatic polymeric layer to impart water resistance while being vapor permeable (pages 4 and 5 of Applicant's Specification) and selective membrane. Therefore, one working in the art would optimize the features taught in Kershner et al. to arrive at the claimed end result.

Regarding the combination with a layer of fabric:

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- e. Kershner et al. teach membranes and textile applications, but fail to teach that lamination of the sulfonated aromatic polyamide to at least one layer of expanded PTFE (ePTFE).
- f. Maples discloses a selectively permeable protective covering capable of transmitting high quantities of water vapor while also being capable of significantly restricting the passage of dangerous chemicals (Abstract). This invention is directed to use as a protective garment or associated accessories (Abstract). The selectively permeable composition is preferably applied to a porous polytetrafluoroethylene (PTFE) support substrate wherein said composition resides within at least a portion up the entire thickness of the porous support substrate (col. 4, lines 58-67). The selectively permeable composition may be located between two PTFE layers, with at least a portion of the composition residing within each layer. The PTFE may be expanded (claim 10). The garment of Maples may further comprise an external facing fabric such as a woven textile of polyester, cotton or wool (col. 12, lines 35-40). The selectively permeable covering may further comprise additional layers of materials such as apparel fabrics or moisture vapor permeable polymeric layers (col. 12, lines 4-48). The applied article has a water vapor transmission rate greater than $2000 \text{ g}/(\text{m}^2 \cdot \text{day})$ (col. 4, lines 40-44).
- g. Kershner et al. and Maples are from the same field of endeavor, (i.e. selectively permeable articles).
- h. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have taken the sulfonated aromatic polymer layer of Kershner

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et al. and applied it to the fabric layers of Maples with the motivation to form a protective garment as in Maples.

i. Claims 2-4 are rejected as the invention of the applied patent may be used as blankets, tents, sleeping bags, sacks, footwear, gloves, garments and the like ('383 col. 6, lines 29-32). Claim 5 is rejected as the at least one additional layer may be the second PTFE membrane surrounding the selectively permeable composition layer of Kershner et al.

j. Claim 6 is rejected as the invention of Maples may further comprise a woven face fabric of wool (col. 12, lines 35-45).

k. Claim 16 is rejected as the aromatic polymer has ketone linkages (col. 3, lines 15-20). Claim 17 is rejected as the aromatic groups have aryl substitutions (claim 1) and claims 18 and 19 are rejected as the sulfonated aromatic polyamide is ionically crosslinked (abstract). Claim 28 is rejected as Figure 19 of the '383 patent demonstrates the use of multiple layers of apparel fabric (col. 12, lines 24-28).

l. Claim 45 is rejected as it would have been obvious to one of ordinary skill in the art to have made the water-resistant article (col. 9, lines 26-33) of Kershner et al. waterproof with the motivation of preventing any liquid water from penetrating the selectively permeable layer. Claim 59 is rejected as the sulfonated aromatic polymer comprises a blend of sulfonated and non-sulfonated polymers (Example 1).

Double Patenting

4. Claims 1-6, 8, 10-14, 16-19, 24-26, 28-34, 36-41, 43-47, 53-59 and 61-68 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10, 15, 16, 18-28, 30, 32-41, 43-47 and 49-52 of copending Application No. 10/818,214. Although the conflicting claims are not identical, they are not patentably distinct from each other because both articles are directed to moisture vapor transmissive protective laminates comprising an aromatic sulfonated polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicant's arguments with respect to claims 11-6, 8, 10-14, 16-19, 24-26, 28-34, 36-41, 43-47, 53-59 and 61-68 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW D. MATZEK whose telephone number is (571)272-2423. The examiner can normally be reached on M-F, 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571.272.1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew D Matzek/
Examiner, Art Unit 1794

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit
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